DOCUMENT RESUME

ED 168 516 IR 007 015

TITLE	A Glossary for Library Networking. Network Planning Paper Number 2, 1978.
INSTITUTION	Dataflow Systems Inc., Bethesda, Md.
SPONS AGENCY	Library of Congress, Washington, D.C. Network Development Office.
PUB DATE	78
NOTE	37p.; For related documents, see IR 007 014-017
AVAILABLE FROM	Customer Services Section, Cataloging Distribution Service, Library of Congress, Navy Yard Annex, Bldg. 159, Washington, D.C. 20541
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Cataloging; Definitions; *Information Networks; *Library Networks; On Line Systems; *Vocabulary; Vocabulary Development
IDENTIFIERS	*National Library and Information Service Network

ABSTRACT

This glossary was developed to fill the need for a commonality of vocabulary for the persons from diverse fields--computer experts, librarians, telecommunications engineers--who are working together in the relatively new field of library networking. The criteria for the inclusion of a term require that it be in current use relative to library networking, that it be a term unfamiliar to the library community but basic to its comprehension of library networking, or that the term's standard meaning be narrowed or modified by its use in a library networking context. The definitions are functional rather than formal. (Author/MBR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED168516

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ISSN 0160-9742

NETWORK PLANNING PAPER

NETWORK DEVELOPMENT OFFICE

NUMBER 2

DATE 1978

TITLE A Glossary for Library Networking

Prepared by Dataflow Systems Inc.

for the

Network Development Office

Library of Congress

Washington

IR007013

Library of Congress Cataloging in Publication Data

Dataflow Systems.
A glossary for library networking

(Network planning paper ; no. 2 ISSN 0160-9742)
1. Library information networks--Terminology.
2. Library science--Terminology. I. United States.
Library of Congress. Network Development Office.
II. Title. III. Series.
Z680.3.D37 1978 025.3'01'4 78-17002
ISBN 0-8444-0270-2

Available by request from the Customer Services Section,
Cataloging Distribution Service, Library of Congress,
Navy Yard Annex, Bldg. 159, Washington, D.C. 20541.

ACKNOWLEDGMENTS

Dataflow Systems has received valuable assistance in the development of this glossary from many individuals involved in library networking. The firm worked closely with the staff of the Network Development Office, including Henriette D. Avram, Sally H. McCallum, Lenore S. Maruyama, and David C. Hartmann, who contributed their knowledge and suggestions at every stage of this project.

Ruth L. Tighe, of the National Commission on Libraries and Information Science (NCLIS), prepared the initial list of candidate terms. Carlos Cuadra of Cuadra Associates, representing NCLIS; S. Michael Malinconico of New York Public Library, representing the authorities study group; John F. Knapp, of the Research Libraries Group, representing the Network Technical Architecture Group; James P. Riley, of the Federal Library Committee, representing the Network Advisory Committee; and Robert C. Stewart, of the Pennsylvania Area Library Network, representing the Council for Computerized Library Networks, devoted many hours to reviewing and commenting on the preliminary and revised drafts of the glossary. Brett Butler, of Information Access Corporation, and Barbara E. Markuson, of the Indiana Cooperative Library Services Authority, reviewed the manuscript and contributed useful suggestions.

J. B. Malcom
Judith L. Promisel
Dataflow Systems, Inc.
Bethesda, Maryland

INTRODUCTION

The discussions of the working groups involved in planning the library bibliographic components of a national library network point to the need for standarized vocabulary. Papers presented at working group meetings reflect the same need. The relative newness of the field of library networking and the diversity of background of those working in this area or affected by its development create communication problems. Computer experts are talking to and writing for librarians. Librarians are explaining their needs to telecommunications engineers. Each brings different professional jargon to the combined discipline; each interprets standard terminology according to his own experience, thereby creating a meld of meanings as concepts are combined. Also, other concepts are gaining a new context when viewed from the standpoint of library networking.

The Network Development Office of the Library of Congress responded to this need for commonality of vocabulary by arranging to have this special glossary developed by Dataflow Systems Inc. of Bethesda, Maryland. This is a working document; as usage changes, as new terms evolve to describe different aspects of the field, and as library networking professionals work with the terms on a nationwide scale, the scope of the glossary and the definitions of the terms are expected to change.

An initial glossary was assembled using terms suggested by the Network Development Office and documents in its files, journal articles, minutes of working group meetings, and discussions with individuals. The list was reviewed and revised, and preliminary definitions were developed. The definitions are functional rather than formal. The criteria for inclusion of a term are: that it be in current use relative to library networking, that it be a term unfamiliar to the library community but basic to its comprehension of library networking, or that the term's standard meaning be narrowed or modified by its use in a library networking context.

Preliminary definitions were submitted to the Network Development Office and to designated group representatives for review. Participating in this effort were the Network Advisory Committee, Network Technical Architecture Group, National Commission on Libraries and Information Science (NCLIS), authorities study group, NCLIS/National Bureau of Standards

Task Force on Computer Network Protocols, and Council on Computerized Library Networks. Representatives from each of these groups devoted much time and thought to their review. They offered many constructive comments, from the general and philosophical to specific suggestions regarding style and consistency. After definitions were reworked to reflect their advice, consultations with the group representatives continued with the revised glossary being sent for a second review. Additional highly useful comments were received and, in the main, are reflected in the definitions.

Please note that terms defined in the glossary are underscored when they are used in the body of another definition.

Glossary users may wish to refer to the following sources for definitions used in disciplines other then library networking:

A Guide to Networking Terminology, A. J. Neumann, NPS Technical Note 803, March 1974.

A Compilation of Terms and Definitions Appearing in Z39 Standards, American National Standards (ANSI) Committee Z39, April 1977.

Data Processing Glossary, IBM (GC20-1699-5), October 1977. (Includes definitions from American National Dictionary for Information Processing, Computer and Business Equipment Manufacturers Association, and ISO Vocabulary of Data Processing)

A GLOSSARY FOR LIBRARY NETWORKING

access point

a data element used as a means of entry to a file or record. See also: heading.

application level

the areas of a computer system that concern user processes, as distinguished from communications and housekeeping functions. In library networks, application level refers to the computer processes in support of specific library operations, such as acquisitions, cataloging, serials control, reference, etc.

architecture

the technical structure or configuration of a system.

asynchronous operation

a mode of computer operation and telecommunications transmission in which the time intervals between transmitted characters may be of unequal length.

authentication

certification that the data content and content designation of a given bibliographic record have been reviewed by an appropriate center of responsibility and that the record meets the established bibliographic standards of a network. See also: center of special authorization.

authentication center

see: center of responsibility.

authoritative record

a record that is adjudged by a designated center of responsibility to conform to a network's standards.

authority control

the functions involved in establishing, maintaining, and using authority files.

authority file

a set of records that identifies the established or authoritative forms for headings or access points for a set of bibliographic records. Authority files include cross references from variants to the preferred forms of headings, and links from earlier to later forms and between broader and narrower terms and related terms. An authority file may represent the authoritative forms of headings for an individual institution, a group of related institutions, or a network of related and/or unrelated institutions.

authority record

a record of an individual heading in an authority file. An authority record may include heading variants, cross references to and from the heading, cataloging notes, historical information, and references to the source of a heading.

bibliographic control

the functions necessary to generate and organize records of library materials for effective retrieval.

bibliographic data

data representing individual bibliographic attributes of an item, typically including descriptive and subject cataloging elements, indexing elements, authority elements, and abstracts.

bibliographic group

a set of functionally related bibliographic data.

bibliographic information

the meaning assigned to bibliographic data.

bibliographic item

a uniquely identified work or part of a work.

bibliographic (processing) services

activities that assist libraries in establishing bibliographic control over their materials and in gaining access to mechanisms for their identification and retrieval. See also: bibliographic service center.

bibliographic record

a collection of bibliographic data fields treated as one logical entity that describes a specific bibliographic item. See also: cataloging record.

bibliographic reference

the set of bibliographic data needed for unique identification of an item.

bibliographic reference file

see: catalog.

bibliographic service center

an organization that serves as a broker or distributor of computer-based bibliographic (processing) services. A service center gains access to national library network resources through the facilities of a bibliographic utility. It does not necessarily contribute records directly to or maintain portions of the national library network data base.

bibliographic strip

a coded summary of bibliographic data, especially as printed on the cover of a periodical, used for rapid identification of an item.

bibliographic unit

1) see: bibliographic item.
2) see: authority record.

bibliographic utility

an organization that maintains online bibliographic data bases, enabling it to offer computer-based support to any interested users, including national library network participants. A bibliographic utility will maintain components of the national library network data store and provide a standard interface through which bibliographic service centers, and individual national library network participants may gain access to the nationwide network.

catalog

a set of bibliographic records generally under control of authority files which describes the resources of a collection, library, or network. It is the instrument by which bibliographic control is maintained for a collection, library, or network, and by which the relationship between individual bibliographic records can be indicated. See also: library catalog.

cataloging record

a bibliographic record that describes a specific item and indicates it is what it purports to be recorded in the file.

center of authentication

see: center of responsibility.

center of excellence

an institution with the designated responsibility for collecting, cataloging and providing bibliographic records for materials in special subject, geographic or language areas. See also: resource library.

center of responsibility

an organization(al) with designated responsibility for establishing and maintaining the authoritative form of data elements to be used within a network. See also: center of special authentication.

center of special authentication

see: center of special authentication.

center of special authentication

an organization, other than a center of responsibility, that is empowered to authenticate specific data fields in certain bibliographic records. Authentication by these centers of special authentication can be overridden by decision of a center of responsibility.

distributed (computer) network

A computer network configuration in which one computer or a group of computers provides computing, human and machine resources of many various types and interconnections. See also: decentralized processing.

distributed processing

1) computer processing in which one computer or a group of computers located somewhere provides computing services and maintains network control.

2) a system for ordering library materials, preparing them for use, and preparing cataloging records for them in one library or agency for a group of libraries. See also: bibliographic (processing) services.

dongle

1) the connection between a computer device and a program code in a communications system.

2) a means of one-way transmission of data.

check digit

A digit that has a specified relationship to the other data in a data element, used to determine the accuracy of numeric data.

dynamic switching

see: line switching.

dynamics

see: bibliographic reference.

common carrier

a telecommunications company that is regulated by an appropriate government agency and that offers services to the general public via shared circuits.

communications carrier

see: specialized common carrier.

communications computer

a special purpose computer used to control or format data transmitted between network nodes.

communications controller

see: communications computer.

communications format

a format for the transmission (as opposed to the processing) of machine-readable bibliographic data.

communications network

the physical means for a group of nodes to intercommunicate data.

configuration

the arrangement of components or functions within a system.

content designator

a means of specifying the data elements in a given field of a machine-readable record.

control character

a character whose occurrence initiates, modifies or terminates a control function.

control field

a field that supplies parameters which may be required in the processing of a bibliographic record. See also: data field.

control function

an operation that affects the recording, processing, transmission, or interpretation of data.

control message

a network communications transmission involved with managing, supervising, and coordinating the message flow at the application level.

copy-specific data

data sufficient to identify multiple copies and to describe unique bibliographic attributes among those copies of an item described by a single bibliographic record, where the copies are owned by a single organization. Copy-specific data do not indicate an actual site where an item is located within the organization. See also: site data.

data

a representation to which meaning can be assigned.

data base

1) a structured collection of data developed according to uniform standards.

2) an entire set of data available to a computer system.

data base access services

organizations that offer access to one or more data bases. The services may provide direct access to data bases they develop and maintain, or through a royalty arrangement provide access to data bases developed and maintained by others.

data base management

the control processes for the formatting, inputting, storing, retrieving, modifying, and outputting of data in large computer data files.

data base vendors

see: data base access services.

data communication

the transfer of data from one point to another over communications channels.

data element

a defined unit of data within a system.

data field

a field containing bibliographic or other data not required as parameters for the processing of a bibliographic record, as distinguished from a control field.

data link

the assemblage of communications equipment and interconnecting circuits that allows data to be exchanged between two or more stations.

decentralized input

a system in which data for input are accepted from various nodes. In terms of the national library network, decentralized input will allow bibliographic records and authority records to be originated and authenticated by designated centers of responsibility and communicated via telecommunications, magnetic tape or hard copy for inclusion in the national library network data base.

decentralized (computer) network

a computer network configuration in which computing power and/or control functions are distributed over several network nodes. See also: centralized (computer) network.

distributed (computer) processing

1) computer processing systems in which the control functions and/or computing functions are shared among several network nodes.

2) a single logical set of processing functions implemented across a number of computers.

distributed data bases

logically interconnected data bases or portions of data bases (indexes, locations, etc.) that reside in separate physical locations in a network.

distributed network

1) see: decentralized (computer) network.

2) a network design in which each node is connected to every other node either directly or through intermediate nodes.

extension bit/byte

a bit/byte coding scheme used to designate an extended range of characters, commonly called "escape characters," typically including upper case and lower case alphabets, special characters, and numerals.

field

a specified set of contiguous characters in a record, used for a particular category of data.

file

a collection of related records.

fixed field

a field that always has a specific number of character spaces allocated, regardless of the data contents. See also: variable field.

format recognition process

a computer process for constructing machine-readable bibliographic records from a stream of data, utilizing a specific format that facilitates identification of content designators.

front end computer

a subsidiary computer that performs the control and conversion functions necessary for data transmission between host computers and the communications network. See also: host front end processor, network front end processor.

front end processor

see: front end computer.

full-duplex operation

see: two-way simultaneous operation.

fully connected network

a network in which each node is directly connected for communications purposes with every other node.

half-duplex operation

see: two-way alternate operation.

header

the control data that precede a message text; for example, source or destination code, priority, message type.

heading

the form of a name, subject, uniform title, series, etc., used as an access point to a bibliographic record or authority record. The totality of headings in an authority file is indicative of the organization of an entire catalog and the rules used to structure the catalog.

heterogeneous (computer) network

a network that has dissimilar host computers, such as those of various manufacturers.
See also: homogeneous (computer) network.

HFEP

see: host front end processor.

hierarchical (computer) network

a computer network in which processing and control functions are delegated to several levels of specially suited computers.

holdings data

1) data sufficient to identify a number of items owned by an organization, where the several items are described jointly by a single bibliographic record, commonly used with respect to serials (volumes, issues, etc.). Not to be used interchangeably with locations data.

2) data that indicate the scope of the entire collection, or a specific part of the collection, of a library or group of libraries.

homogeneous (computer) network

a network with similar host computers, such as those of one model of one manufacturer. See also: heterogeneous (computer) network.

host

a system or subsystem in a network that performs actual processing operations against a data base and with which other network nodes communicate.

host computer

a network computer that performs the primary processing services such as computation, data base access, and data manipulation. See also: communications computer.

host front end processor

a front end computer at a host site. It provides the interface between the host computer and the logical network front end processor. Host front end processor functions encompass message formatting, character conversion, operating system control and input/output supervisor control.

host site

a network location that receives communications from other network nodes, performs operations on them (via a host computer) and sends communications to other nodes.

information retrieval

the process of selecting from data bases relevant citations to bibliographic items or other pieces of data, using a variety of access points (subjects, names, dates, etc.) and often employing logical operations to define the search strategy.

information retrieval services

see: data base access services.

institution authority record

see: local authority record.

interface

the point or process that joins two system components.

1) a shared boundary, defined by common physical, signal and logical characteristics, across which data travel.

2) a device that facilitates interoperation of two systems, as between data communications equipment and data processing equipment or terminal installations.

Interfaces between computers and communications systems may be divided into various classes of functions, e.g., physical, electrical, logical and procedural.

interstate network

a network with nodes in more than one state.

intrastate network

a network that exists wholly within one state; it may, however, be a regional network at the same time.

item

see: bibliographic item.

level(s)

relative position(s) in the hierarchical structure of a system.

library bibliographic component

that portion of the national library network encompassing its bibliographic service system and segments of its communications system, and exclusive of the resource library system.

library catalog

a set of bibliographic records that describes the collection of a library. Generally characterized by conformity to a given set of cataloging standards with respect to choice and form of entry, description and subject analysis, a library catalog represents an attempt to maintain a coherent organization of a library's bibliographic records and to show the interrelationship of the bibliographic items represented.

line switching

a method of handling messages in communications networks in which a circuit path is set up between incoming and outgoing lines. See also: message switching.

link

a communications path between two nodes or points. See also: interface, data link.

local authority record

a record in an authority file that conforms to purely local catalog requirements. In a quadraplex structure, this type of record is held at the "institution level."

locations data

data that identify the organization(s) holding one or more items described by a specific bibliographic record. Locations data do not include copy-specific data or site data for those items associated with an organization. See also: copy-specific data, site data.

message

1) a single transmission in one direction, consisting of a header and data.

2) a unit of information transmitted from one node to another on a network.

message delivery system

the communications computers and network front end processors which control the transmission of messages between network hosts, and the telecommunications facilities used for message transmission. See also: message processing system.

message processing system

the host computers and host front end processors in a network that perform operations on network messages.
See also: message delivery system.

message switching

a telecommunications technique in which a message is received, stored (usually until the best outgoing line is available), and then re-transmitted toward its destination. No direct connection between the incoming and outgoing lines is set up as in line switching. See also: packet switching.

message text

the substantive portion of a network transmission, i.e., blocks of data exclusive of control characters. See also: header.

message text format

standardized format for messages in a network. Types of message text formats include query text, bibliographic text, reply text, error text. A message text format for a network could be 1) header length, 2) header, 3) data length, 4) data.

modem

modulator-demodulator: a device that modulates and demodulates digital signals so that they may be transmitted over an analog communications transmission medium, such as a telephone line.

multistate network

see: interstate network.

multitype network

a network that serves more than one type of organization, such as a library network with both academic and special libraries as participants. This refers to types of network participants and not to geographical coverage.

national bibliographic center

an organization that provides bibliographic control at the national level, contributing bibliographic records and authority records to the national library network data base.

national bibliographic control

1) the systematic and nationally coordinated organization and provision of bibliographic data on all materials available to the nation's libraries.

2) a subsystem of the universal bibliographic control system.

national bibliographic data base

see: national library network data base.

national bibliographic data store

see: national library network data store.

national bibliographic service

a bibliographic service emanating from a national bibliographic center, e.g., the Library of Congress, to support the nation's libraries with tools for consistent and uniform cataloging, and for nationwide interlibrary loan.

national library and information service network

a system to facilitate access to the nation's library and information resources. The proposed network is to consist of three coordinated parts: a resource system, a bibliographic service system, and a communications system.

national library network

the library-oriented components of the national library and information service network, as will those of the proposed periodicals, research and communications. The national library network will include the contributions to the national library network data store, and will encompass several hierarchical levels: centers of responsibility, centers of special orientation, bibliographic utilities, and bibliographic service centers or main resource libraries.

The national library network is expected to provide services to support the identification of items, the location of items, the transfer of items stored by the network's participants (interlibrary loan), and the acquisition of such items.

national library network data base

a compatible set of machine-readable files of bibliographic data constructed according to network standards and designed to support national library network services.

national library network data store

the aggregate of machine-readable files of bibliographic data processed by the national library network's constituents. The data store provides the data from which the national library network data base is built.

Since the data store comprises records of only the library sector of the information community, it represents only one facet of the nationwide library and information service data store.

national library network union catalog

a union catalog or set of union catalogs derived from the national library network data base.

national library network main catalog (NNMC) [0]

A national library network main catalog will provide a non-redundant, central index to the network's resources, and interface with a human, telecommunications network. Computer processing data will direct requests to network participants where more specific locations information can be obtained for an item.

net; net network

see: national library network.

nationwide library network

see: national library network.

network

(1) two or more organizations engaged in a common pursuit of information exchange through telecommunications links, for some common objectives.

(2) an interconnected or interrelated group of nodes.

network authority record

an authority record created according to standards for content and content designation agreed on by network participants.

network or host program

a subroutine of a host computer in a network, which controls the operation of the communications computer.

network coordinating agency

an agency responsible for coordinating the development of the library bibliographic components of the national library and information service network.

network front end processor

a front end computer that acts as the interface between the host or the host front end processor and the network. Its responsibilities include the reliable routing of messages to and from the associated host front end processor and the transmission of messages from other network nodes.

network library resource system

one of the three components of the national library and information service network. The resource system will designate responsibility to information facilities for providing access to needed library materials and coordinate support for collection development.

network node

a station, terminal or communications computer in a computer network.

network operations center

a center that controls, manages and maintains a network.

network redundancy

additional links beyond the minimum number necessary to connect all network nodes.

network security

the measures taken to protect a network's equipment, communications, and files from unauthorized access, accidental or willful interference, and damage or destruction.

network text

see: message text format.

network topology

the configuration of links and nodes in a network.

network transaction

a transaction between nodes in a network.

node

see: network node.

originating host

1) the initiator of a network session.

2) the host computer at the source of a message transmitted to a target host in a network.

packet switching

a type of data communications in which small defined blocks of data called packets are independently transmitted from point to point between source and destination, and reassembled into proper sequence at the destination.

port

the communications interface subsystem of a computer, front end computer, or terminal.

post telephone and telegraph (PTT)

government-operated or government-authorized (usually European) common carriers.

protocol

the conventions used in communicating between nodes and levels in a network, specifically a formal set of conventions governing the format and relative sequencing of message exchanges. (Note: the use of "protocol" for communications conventions between nodes at the same level, and "interface" between nodes at adjacent levels has been suggested.)

PTT

see: post telephone and telegraph.

quadraplanar structure

a form of data representation in which bibliographic data and locations data collected from more than one institution are organized with minimal duplication of data elements by distinguishing four levels or types of data planes: universal or system, multi-institution or collection, single institution, and copy. Data elements from a record that are alike for all institutions in the system belong to the universal plane, those common only to subsets of institutions are on the multi-institution planes, and likewise for the other levels.

query

a data message structured so as to elicit a response.

real time system

a computer system that receives and processes data, and can utilize the results immediately to guide subsequent processing operations.

regional network

a network with nodes in a defined geographic area. A regional network may operate wholly within a state (intrastate network), or have participants across state lines (interstate network).

registry

a conceptual entity designed to function as a depository for message text format standards and the current and correct version of the network protocol for the national library network, and as an assigner of control codes for inclusion in the header field.

reliability

the ability of a system to perform its intended functions under stated conditions for a stated period of time. See also: vulnerability.

remote input

a method of input in which data are entered for processing via an input device that has access to a computer through a telecommunications link. See also: decentralized input.

resource library

a library designated as responsible for developing collections in special groups of materials and for providing access to these materials to other libraries. See also: center of excellence.

resource sharing

1) sharing of materials among cooperating libraries.

2) sharing of bibliographic data.

resource sharing (cont'd)

3) sharing of library processing services and the computer facilities, programs, and telecommunications to provide these services.

response time

the elapsed time between an indication of the end of a query and the display of the first character of the response.

ring network

a computer network in which each computer is connected to two adjacent computers in a circular pattern.

service center

see: bibliographic service center.

session

an association between an originating host and a target host through a sequence of control messages that explicitly begin and end the session. A session may have a number of transactions which, in turn, may comprise many messages.

sink

1) a computer or terminal that receives and processes data from a connected channel.

2) the point of usage of data in a network. See also: source.

site data

data sufficient to identify the actual physical location and shelving position of an item. For example, site data may specify special collection sites in single-branch collections and branch sites in multiple-branch collections, and may include call number data.

source

1) a computer or terminal which enters data into a connected channel.

2) the point of entry of data into a network. See also: sink.

specialized common carrier

1) a company authorized by a government agency to provide limited telecommunications services. Examples of specialized common carriers are the value-added networks.

2) the term is also used to connote all those common carriers not covered in the original federal communications legislation.

star network

a computer network in which each peripheral network node is connected only to the computer(s) at a single central facility. See also: centralized (computer) network.

state network

see: intrastate network.

station

an input or output point in a telecommunications system.

target host

1) the host computer in a network session with which the originating host communicates.

2) the destination of a message transmitted in a network from an originating host.

telecommunications

transmission and reception of data by electromagnetic means.

teleprocessing

automated data processing that utilizes telecommunications facilities for data transmission.

TELPAK

commercial telecommunications services using wide-band transmission techniques for multiple channel, high-speed and video communication.

terminal

1) a device for entering data into or receiving data from a computer system or computer network.

2) a point in a communications network at which data can either enter or leave.

text

1) the part of a message that contains the substantive information; the body of a message, exclusive of control characters. See also: message text.

text (cont'd)

2) the accepted format for a standardized network communication, e.g., query text, reply text, error text, etc. See also: message text format.

3) a sequence of characters forming part of a transmission from a data source to a data sink, preceded by a header and followed by an "end of text" signal.

transaction

1) an operational unit of processing at the application level; a complete step of data processing.

2) a logical grouping of messages in both directions between originating hosts and target hosts in a network.

two-way alternate operation

mode of operation of a data link in which data may be transmitted in both directions, one way at a time, over a single channel.

two-way simultaneous operation

mode of operation of a data link in which data may be transmitted simultaneously in both directions over two channels.

union catalog

1) a catalog that describes the contents of physically separate library collections, indicating by means of locations data the libraries in which a given item may be found.

2) subsets of the national library network data base.

a) See: national library network union catalog.

union catalog (cont'd)

b) Other union catalogs that coexist in the data base, with headings that conform to standards of various specialized centers of special authorization or centers of responsibility.

universal bibliographic control (UBC)

...ernational system for handling ...ographic data that describe bibliographic items produced anywhere in the world.

validation

a machine or manual process in which the data and the content designators of a record are matched against standards, and notification is given of any errors or inconsistencies detected. Not only is the record itself checked (verification) but it is also checked against existing files. No data are changed during validation. Examples of validation processes include using a check digit to confirm the accuracy of numeric data and checking a record against existing files for possible record duplication.

value-added network

a network operated by a private company that is authorized by a government agency to lease basic communications services from common carriers and specialized common carriers, to augment the services through additional facilities, such as switching centers and store-and-forward devices, and to resell the enhanced service to end users. Telenet and Tymnet are examples of value-added networks.

variable field

a field in a record the length of which is determined by the number of characters required to store the data in a given occurrence of that field. The length may vary from one occurrence of a variable field to the next. See also: fixed field.

verification

a process in which a record is proofread to determine whether it is complete and error-free. See also: validation.

virtual circuit

a telecommunications path that uses a number of point-to-point circuits connected through switching by communications computers. Data transfer is accomplished by forwarding data in blocks from node to node toward the destination, such that the circuit appears as a single physical transmission path.

voice-grade line

a telephone line suitable for transmission of speech, digital or analog data, or facsimile, generally with a frequency range of 300 to 3000 cycles per second.

vulnerability

the extent to which a system is susceptible to malfunctions under stated conditions. See also: reliability.

WATS

see: wide area telecommunications service.

wide area telecommunications service (WATS)

communications service that allows users to use telecommunications facilities for voice or data transmission within specified zones for a flat monthly charge, without regard to the number or length of transmissions.

wide-band

a communications channel or group of channels with a data capacity greater than that of a voice-grade line.